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The National Health Program

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Friends of South Carolina: It would be a privilege to speak in any state that had such a statesman introduce me. As Dr. Hayne has said, I have followed in his footsteps and have sat at his feet and have learned many things. So far as I have been able to observe, I have known no man, in all the states of the Union, who has led a public life so worthy of emulation and imitation. If every other state could produce a man or two with the leadership, with the sincere desire to serve, with the self-forgetfulness and the fine humor of Dr. James A. Hayne, they would be as famous for their medical statesmen as South Carolina has always been for its medical profession. Preceding me as President of the Southern Medical Association were two men who have made some of the greatest contributions to its success and to its welfare—Dr. Robert Wilson a number of years ago and Dr. J. W. Jervey last year. The Southern Medical Association is a friendly organization of people who speak the same language, who are moved by the same emotions, of people who, while deeply interested in science, are as interested in the humanity they serve as in the science which is their master.

In talking to you tonight I am not speaking as President-elect of the Southern Medical Association or in any other capacity except as a physician. As a physician I can say, as did a Pharisee of old, I am a physician of the physicians. My people have been physicians for at least seven generations and I imagine before that they were barbers, because that was about the time surgery evolved from the barber shop. Everything I do I do from the viewpoint of the physician. My father before me was a health officer. He was health officer at the time when physicians were permitted to hold that position if they were willing to work hard enough at their private practice to support themselves, and pay their own official expenses, because the position was considered both a privilege and a responsibility of the practitioner of medicine. It is interesting that in this country, which is the most healthful country on the globe and where people have the longest lives, every effective health plan has been planned and engineered by physicians. Physicians in every county and city in these United States have been members of boards of health and health officers without renumeration, during most of this country's history and they have built for us a generation which has the lowest death rate, which lives for a longer number of years, and which is able to work for a longer number of years, than any other country on the globe. We are the freest profession in our relationship with our people that there is anywhere, and, therefore, it seems to me, that we have earned the right to be heard when matters affecting medical practice and the peoples' health are concerned. We are the best educated and the best trained and the most devoted, saving pos-

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sibly a large element of the clergy, of any single group that serves humanity. We are public servants in the largest sense of the word, recognized by the state, examined by it, commissioned by it, and permitted to practice our calling because we have shown our qualifications, and practicing under sufferance so long as we conform to the laws that have been made and so long as we conform to the honorable practices that have been built up by our predecessors. We are the heirs and inheritors of their knowledge. Therefore we can talk to our people with the feeling that we have a right to talk to them from the standpoint of leadership in our calling, from the standpoint of confidence in our faith, because we have kept our house clean and intend, God willing, to keep it clean and to give the increasing service which increasing knowledge will enable us to give.

Some fifty or sixty years ago there began to develop new lines of knowledge as to the etiology of disease which opened up before us all increased opportunity and gave us increased weapons and increased facilities for the detection and cure and prevention of disease. Since then no progress that has been made by any other human activity has kept pace with the progress that has been made in the service of the medical profession to humanity. In that time we have developed adjuvants to our profession. Before then we had the pharmacist, but since then the nurse, the various executives and experts in the hospital, and technicians of all kinds and varieties have developed, and all of them have become essential in the treatment and cure and prevention of disease. As I look back to the time when my father came from Cincinnati, after graduating and finishing his internship in 1870, and recall that he invested the sum of $17.80 in the entire armamentarium that was necessary for him to practice medicine in the country, doing a very large general practice, I can the more fully realize the difference between the necessary expenditure of time and money in learning the art and science of medicine and acquiring the facilities with which to practice then and now. The whole picture has changed. The expenditure necessary for the treatment of disease has enormously increased, and at the same time, in many sections of our country, and particularly in our own section, the average per capita income of our people has not increased. Therefore when he and I began practicing we were able to give to our people somewhat the same treatment because we gave them our knowledge and that alone. But now in the treatment of pneumonia, for instance, our knowledge does not suffice; we need to determine the type of the disease, we need to get the serum necessary, frequently we need to have an oxygen tent and the oxygen; we need to have all those things that are necessary and that science has shown to us can save half the cases or almost half the cases that we formerly lost, in addition to those that we were then able to save. Yet in your state and in my state three-fourths of those who have pneumonia would be unable to purchase those facilities if they had to pay for them themselves, and consequently they are not purchased. We know that in our Southlands thousands of people die each year from pneumonia because they are not treated with the modern facilities for the treatment of pneumonia. I could multiply such instances endlessly.

To start from an entirely different viewpoint, several years ago some philanthropist devised a scheme—(may I say parenthetically that sometimes I am a little doubtful whether some of these philanthropists are not merely glorified robbers who had acquired more money than they ought to have had and were trying to give some away in order to get a ticket for enternity). This philanthropist devised a scheme that was called the "Committee on the Cost of Medical Care." It was a gigantic undertaking. They tried to determine the cause of the increased cost of medical care. The findings of that commission were monumental. There were twenty-seven great volumes of facts filed. Several of them were prepared by the American Medical Association. No reference library on any other subject of human welfare could be more accurate. Unfortunately, it appears that the group in charge of this undertaking had prepared their recommendations and their verdict before they found their facts; and when their verdict was announced to a waiting public and an apprehensive profession, it was found

so much at variance with common knowledge, and their recommendations were so revolutionary in American life, that we as a whole group arose in our wrath and condemned it all, although probably three-fourths of their findings were as sound then as they are now. But the proposed compulsory health insurance and other recommendations were so astounding to a profession that had given the service I have before enumerated that we were all astonished and dismayed and mad because, thank fortune, we are still free enough in the United States to get mad when we feel like it and to say what we want. And what we had to say about the recommendations of the Committee on the Cost of Medical Care was plenty.

Many men will go before legislative committees or before university or other groups and say that these things are true about medicine and that here are twenty-seven volumes say to prove they are true. Not that they have read the twenty-seven volumes! The committee that drew up the findings does not appear to have read or understood much of the factual data they themselves had collected. Consequently much of their report was a *non-scquitur*.

Bills have been introduced in almost every legislature in the United States to carry out the scheme of compulsory health insurance. It is to be remembered that any state whose constitution does not prohibit it could have adopted health insurance at any time in the last twenty years. We know it has been adopted in many other countries of the globe and we know how it has worked there. We know we have the healthiest people of any nation. We know the enormous expenditure that it would involve, and, that therefore, we shall continue to oppose it. That is perfectly apparent if you consider other forms of social insurance. Take the old age benefit or take the unemployment insurance and you see the enormous number of subsidiary officials that have been found necessary to explain it and popularize it. Consider the enormous number engaged in the healing art in the United States today. It would take at least one or two supervisors or accountants or inspectors or what not, for each one of them, to see that we did the things we were supposed to do, and the cost of medical care would be enormously increased, and it would show in our tax bill rather than in our improved vital statistics.

Another feature that seems to have escaped general comment is that compulsory health insurance would benefit, if it benefited any at all, only those who are employed, or practically the same group that is now insured under unemployment insurance. That would mean that the indigent and the near indigent and the unemployed would receive no benefit, although they would in the end bear their part of the increased cost from increased taxation. In other words, the third of our people who are unquestionably able to carry their share of the cost of medical care and the third of our population who are probably unable to make any contribution to medical care would both be taxed in order to furnish a lower average charge for medical care to the central group, which is unfair and un-American and is to be opposed at all hazards. I am saying these things because these are things on which we are all agreed. We are almost unanimous in opposition to this suggestion. It is made by self-styled economists. I do not exactly know what an economist is, but many of them seem to be this type, who can think up a different way of doing something, whether the present way of doing it is good or bad. Such economists recommend compulsory health insurance, and they have been able to make some shallow thinkers believe in these things.

In our last legislature the Epstein Bill was introduced and referred to the committee on ways and means. I went to the chairman and asked him when he would report it out. He said: "I do not know; I suppose you will want hearings on it." I said: "No, I do not think so." He said: "Why do you want it reported out?" I said: "Well, it will cost $17,500,000 a year and we doctors are going to get all of it, so we want it started as soon as possible." He said: "Well, it is not going to be reported out if it costs $17,500,000; I am going to tear it up right now." That is the best answer we have for such impractical extravagant proposals.

It has been suggested that everyone with an income of less than three thousand dollars

a year should have medical care at public expense. What would have happened in my good County of Warren, where I began practicing, if that had been the law? There were about twelve people in the county with incomes of three thousand dollars or more, and the rest of them would have been treated as needy.

In 1935 the President had appointed a Social Security Commission and in 1936 the Social Security Bill was passed. By and large that has probably brought about the greatest social revolution that has ever been brought about in any land by a social law. Of course you who are so familiar with history as you are in South Carolina realize that when the Constitution of the United States was written it was written in an agricultural community with the purpose of protecting the property rights of farmers. That was its sole purpose. The general welfare clause was added later, and there was no sort of human interest in it except the thought of protecting the states. It never occurred to anybody that there could be what we recognize now as social legislation.

The Social Service Commission was composed of leading educators and men connected with our universities. When the matter was presented to the President, he said a thing that I think should be repeated to the people generally and to our public. He said: "In ———— there are three doctors, two of them Republicans and very good doctors. One of them is my doctor. The third is a Democrat and not a very good doctor." He said: "That is the man who would be appointed, and I do not believe that such service should be given to the poor of our country." So that recommendation was withdrawn, and for it was substituted Title VI of that law. You are familiar with that law. It has a great deal to do with legislation that will be enacted hereafter. It provides that eight million dollars is to be appropriated to be distributed among the states in three proportions, one varying as the population, one as to special health needs, and one as to economic income—that is, family income or per capita income. The distribution of the eight million dollars is made in that way. It goes to the state, and when it goes to the state it becomes state money; it goes into the state treasury and is expended just as if it were taxes paid by the people of South Carolina or of Kentucky. That money is expended for the extension and improvement of public health services in the state on a plan which is submitted to the United States Public Health Service or to the Children's Bureau (for certain features of Title V) by the state health authority of the state. That plan can provide nothing as to salaries or compensation; it can invade no section of the state in any of its affairs at all. It adds no authority to the Federal Government in any way. It added no single employee to the Federal Government—not one. That is the plan of your health department which you have approved today through the action of your various committees, and that is the plan that has been approved in Kentucky by our health department and the Kentucky State Medical Association; and in our state, as in yours, the relation between them is so close that you cannot draw a dividing line. I cannot imagine any more intimate connection, nor any more proper connection than with the medical profession, for it is their responsibility to save the lives of the people.

That being true, we are then confronted with the recommendations of the National health program made by the National Health Committee to coordinate the health activities of the Federal Government. It will interest you to know (and I do not believe you would think of it unless it is called to your attention, because it is hardly conceivable that intelligent people should have such knowledge in their possession and not coordinate it) that when Dr. Hayne and I go to Washington to seek help regarding nutrition there are nineteen bureaux that have to do with nutrition problems. There are thirty-seven different bureaux of the Federal Government with which we have to deal when we go to Washington to discuss health problems. Yet the Federal Government cannot license a physician and no representative of the United States Public Health Service can come into South Carolina or into Kentucky unless invited. They furnish us with a certain amount of financial assistance and a certain amount of technical aid, and that is all. When the President appointed this committee, which included the heads of several executive departments in Washington, they reduced con-

siderably the amount of overlapping. Among other things was the appointment of a technical committee on medical care. It included three physicians, one economist, and one statistician. The committee gathered together a large amount of factual material.

I realize that I am talking to the best trained and most able group of clinicians there are. You are able to distinguish between what is right and what is wrong; you are able to distinguish between normal temperature and febrile temperature. You are trained to do that thing. I wish you could have had the pleasure of listening to the address made by Miss Josephine Roche, Under Secretary of the Treasury. She might have come from South Carolina; although she did come from Colorado, she has all the femininity and modesty and charm and sweetness that are the marks of your women. I think if I could have just shut my eyes I would have been in favor of what she said. But I did not shut my eyes. I listened to it. As I listened, I got this conception that I would like you to feel with me, that here was the voice of the people. Of course, our representatives in Government, regardless of whether we agree with them in a particular statement at a particular time, are the representatives of the people of this country. We can change them at any time we want; we can remove them or re-elect them. We are free to do what we please about them. Here was the voice of a representative of the people coming not to the American Public Health Association but to a physician who had over his door the sign "M. D." Here comes a patient in with a complaint. We know that many patients come in with complaints for which there is no physical basis, no mental basis, no spiritual basis. Our job is to take those patients and strip them stark naked, physically, mentally, and spiritually and find out the truth, whether there is a disease, whether there is a psychological condition, or even whether there is a spiritual condition, Dr. Pendleton, so that that individual can be relieved and restored to normality. I listened as a physician to the complaint of the people. Then I suddenly realized that the people had come to the wrong doctor's office, as so frequently happens now. Often a patient will go to a surgeon when he should go to an internist. Here I got the idea that the patient had come to a public health official, who does not practice medicine at all, who does not diagnose disease. She said there were forty million people not able to purchase medical care. We do not know whether that is true or not. It may be thirty million, may be ten million, may be one million. But if there is any person needing medical care not receiving it then the people have a right to complain. If they had a complaint they had a right to bring it to their physician. We appointed a committee, of which I happened to be chairman, and took that to the American Medical Association. I am one of those who know the American Medical Association with an intimacy allowed to but few of even its members and its fellows. My father was a member of its committee on reorganization. He had the privilege of speaking in every county of your State on reorganization. Either he or I have been a member of every session of the House of Delegates since that time, and I know the sincerity and disinterestedness and the patriotism and the unselfishness of the men who compose that great body elected as your representatives, among the most distinguished of whom, the most untiring, and one of the hardest workers on its committees has been your Secretary, Dr. E. A. Hines, for many years. Many others of your distinguished members have represented you in the House of Delegates of the American Medical Association.

When we went to the American Medical Association they appointed a committee and made a study of the needs for medical care. It is an exhaustive study. It has cost us in Kentucky thirty thousand dollars. It is not yet completed, but it will be. It has taken an enormous amount of time and an enormous amount of energy. They will shortly have it so every man can read the exact facilities that exist in every county in Kentucky, that exist to give every citizen in Kentucky what he needs in the way of medical care.

When this matter was referred to the Technical Committee last February a year ago it made a report which it called the National Health Program. Unfortunately, that came

after the report of the Committee on the Cost of Medical Care and a lot of these other irritating things that had all been too stupendous to read or understand or consider. It was short, but I would not embarrass you by asking how many have read it. It was asked of the House of Delegates of the American Medical Association how many members had read it, and seven out of one hundred seventy-five had. It is simple and so uncomplicated that when each provision was read, except the one written by the economist, it was indorsed by every single delegate to the American Medical Association by a rising vote. Sections 1, 2, 3, and 5 were approved by a rising vote, with these amendments. The first amendment has to do with the subject of child care and maternal health. The very wise provision was made by the American Medical Association that those expenditures should be made only where needed and that there should be no expenditure for public salaries for practitioners of curative medicine. The man that is going to practice medicine should be paid exactly as he is today.

The second recommendation is in regard to the provision of hospitals and hospital facilities and diagnostic centers. The American Medical Association approved that with the provision that existing hospital facilities should be utilized first before any provision for additional facilities. In Kentucky fewer than half of our hospital beds are occupied at any time, because our people are too poor to pay for hospital service. Until those beds are utilized there should be no increased facilities, and every encouragement of the American Medical Association should be given to the private philanthropic organizations like the Catholic Sisters, the Protestants and the Jewish organizations and others which have built these great institutions.

The next recommendation has to do with payment for the treatment of indigent patients. There is not a county or city in the United States today that is not charged with the responsibility of paying for medical services for the indigent among its citizens who are sick. What does that spell in South Carolina or in Kentucky? Have you ever been paid for your services to the indigent? The doctors in New England cannot understand the agitation, because up there they have always been paid for such service. The burden now has become too great for the profession to carry here. Under this recommendation the mandate is that these people must be cared for, and the only thing that is different is that the service will be paid for. That is as if everybody that owes you came in and paid their bill, which would certainly be a new thing.

The fifth recommendation was for the extension of unemployment insurance to provide for minimum wages when the wage-earner is sick.

There was no difficulty at all about most of these recommendations. I wish you could have heard the representatives of the American Medical Association and the American Public Health Association in conference with that technical committee. It took them only a few minutes for Sections 1, 2, 3, and 5. The only argument was over the compulsory health insurance.

Following all this, a bill was introduced the other day into the Senate by Senator Wagner, of New York, who has introduced most of the social legislation. Senator Wagner is a very able man, a very learned man, and I think, frequently a very impractical man. The bill as he introduced it provides for the administration by the United States Public Health Service, by the Children's Bureau and by an added agency. Instead of consolidating Government agencies, as has been the recommendation of every President for the last fifty years, he has added one.

There are numerous other provisions in this first draft of the bill. But let us take courage from this fact. I assume that not many of you are legislators or members of city councils, but most of you know that when the legislation is introduced it is not introduced in its perfected form but hearings are held and bills are revised and amendments are added. I imagine it will take several sessions of the Congress to determine the respective merits of those who will represent different ideas and ideals for the enactment of a law making effective the National Health Program. But in the meantime let us keep our powder dry and use our wisdom to help construct a program

that will preserve and protect the health of the people of this country and not say, like our British and French brothers, "Thus far shall you come and no farther." Let's not be ignoramuses. Let's retain that which is ours, the confidence and love and affection of our people. We are their only hope. We cannot let them down; we cannot betray them; we cannot turn them over to the paper politicians who would grab power by controlling the greatest profession on this globe. It is ours to control. Let us unselfishly, patriotly and determinedly retain our control. Let's keep our people the healthiest and the happiest and let's help them to retain their health, physically, mentally, spiritually; that they may retain for themselves the blessings of freedom and that we may continue to be an unregimented, uncontrolled, liberty loving people making our own destiny, living in peace and good-will on earth, and hastening the day when the kingdom of God shall be realized on earth and when the public mind shall not be swayed by passions and prejudices of little men.

Present Knowledge of the Prophylaxis and Treatment of Tetanus * †

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"There is nothing more remarkable in the whole history of disease than that, in consequence of a trivial wound of one of the extremities, a healthy man should be seized with a spasmodic affection of the muscles of the jaw; that this spasm should extend to the trunk; and that it should be followed by generalized convulsions which will in the majority of instances speedily end in death." Thus wrote Erichsen (1) before the bacteriological foundations of our knowledge of tetanus were laid. Unhappily, the same terrifying events are seen today, fifty-five years since Nicolaier made known the bacterial cause of the disease.

Nevertheless, much progress has been made in the study of tetanus. We have comprehensive information concerning the nature of the disease, and possess ample knowledge to prevent its occurrence, if only persistent application of the means at hand might be made.

The unpretending purpose of this paper is to present a current summary of our knowledge of the prevention and treatment of tetanus, as reflected in the writings of experienced clinicians and investigators.

For a preventable disease, the death rate from tetanus is high. It has been consistently near 50 per cent in many widely scattered clinics. There were 205 cases at the Los Angeles County Hospital, 1921-1935, with a gross fatality of 56.5 per cent. Thirty-three cases at the Massachusetts General Hospital were reported by Miller and Rogers (2) with a 42 per cent mortality. United States Census Bureau Reports, 1925-1937, show 16,212 deaths from tetanus (1.06 per 100,000 population) (3). In South Carolina, the State Health Department recorded 91 deaths for the five-year period, 1933-4 through 1937-8, four of these being from Spartanburg County (4). Five deaths from tetanus appear among my records of 427 consecutive autopsies at the Macon (Georgia) Hospital, July, 1931-August, 1938.

We may better appreciate the methods of preventing tetanus and alleviating the symptoms when they arise, if we recall the salient facts concerning the causation and evolution of the disease.

There are no gross or microscopical lesions characteristic of tetanus. Lecturing at Guy's Hospital more than a century ago, Wilkinson King used to remark when a postmortem examination was to be made upon a patient who had died of tetanus, "We will now demon-

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strate a case of healthy anatomy, for there will be no morbid appearances except congestion of some of the organs owing to accidental circumstances"(5). Death results from asphyxia brought about by tonic spasm of the respiratory muscles, from exhaustion following convulsion, or, occasionally, from aspiration pneumonia.

Tetanus follows a variety of injuries, notably: puncture wounds, made by such objects as splinters or nails; lacerated wounds; crushing injuries; wounds produced by firearms and other explosives, particularly when fragments of clothing are driven into the flesh, perhaps through soiled skin; compound fractures; burns; infections of the umbilical stump in the newly born; septic abortion; and, rarely, infections after surgical operations.

The immediate cause of the disease is the *Clostridium tetani*, commonly called the tetanus bacillus. This bacterium is a normal inhabitant of the intestinal tract of some herbivora, especially the horse. It is, therefore, frequently found in superficial soil, particularly in manured earth. It is by nature a saprophyte rather than an invader of healthy tissue. It is a strict anerobe, that is, an organism which grows best in an environment deprived of free oxygen. It can develop spores which stubbornly resist destruction, and which retain the latent vitality of the microbe for months, in the soil or encapsulated in animal tissue. It thrives in septic wounds. Tissue damaged at the inception of injury provides a medium suitable for the growth of tetanus bacilli. Other bacteria, carried into the wound on foreign particulate matter, consume the available oxygen and thereby promote the life activities of the tetanus germs. Although suppuration is not a conspicuous feature of tetanus, pyogenic cocci in small numbers, together with tetanus bacilli, may frequently be demonstrated, at postmortem examination, about a splinter or other foreign body.

Restricted to the site of injury, the tetanus bacilli secrete a most intense poison, the tetanus toxin, which is distributed throughout the body by the circulating blood. From the blood, and also from the immediate vicinity of the wound without the intermediation of the blood, the soluble toxin is absorbed by end-plates of motor nerves. Tetanus toxin has a strong predilection for motor nerve cells. Indeed, all of the symptoms of tetanus, and even the death of the victim, are but expressions of the profound intoxication. Abel(6) believes that toxin reaches the spinal cord and brain almost entirely by way of the blood and lymphatic vessels. Boyd(7) says that toxin can reach the central nervous system only by way of peripheral nerves. The toxin, once united with nerve cells, becomes indissolubly bound to them and incapable of neutralization by tetanus antitoxin, which can counteract the toxin in the blood stream. There is no natural immunity to tetanus.

Tetanus antitoxin, or antitetanic serum, has, since its introduction by Von Behring and Kitasato in 1890, been our chief reliance in the prevention of tetanus, and almost the sole remedy to offer even a flickering hope of cure in established cases of the disease. Horses and other susceptible animals may be made immune to tetanus by repeated injections of gradually ascending, non-fatal doses of tetanus toxin. The circulating blood of the immune animal, or the serum separated from it, will then contain antitoxin, capable of uniting directly with tetanus toxin and making it non-intoxicating. The transfer to a person or animal of protective properties that have developed in the blood serum of another animal is called passive immunity. Given to a recently injured person, the antitoxin will protect the individual against the effects of toxin that may be produced in the wound by living tetanus bacilli.

Antitetanic serum earned merited praise in the World War. During the retreat from Mons, so many cases of tetanus occurred that immediate steps were taken to cope with the peril. A prophylactic dose of tetanus antitoxin was given to every wounded soldier, no matter how slight the wound. The incidence of tetanus among the wounded British soldiers in September, 1914 (9 cases per 1,000 wounds) was 18 times as large as in October, 1918 (0.5 cases per 1,000 wounds). The death rate among the unprotected and unrecorded group, according to Sir David Bruce(8), was 53.5 per cent; among the group protected by inoculation, it was 23 per cent. Not only so, but the incuba-

tion period was lengthened, being 46.5 days among the inoculated, and 10.9 days among the uninoculated. It has often been observed that the probability of recovery is directly proportional to the increased time that elapses between the receipt of the wound and the appearance of symptoms. Vener(9) concluded that the greatest number of deaths occur within the first three days of hospitalization; if a patient could be kept alive nine days following admittance, he would have a 90 per cent chance of recovery.

Three important principles govern the prevention of tetanus: the prophylactic administration of tetanus toxoid to uninjured, well persons; the immediate thorough surgical treatment of every traumatic wound; and the prophylactic injection of antitetanic serum promptly after every accident liable to be followed by tetanus, unless the recipient of the injury is known to have received previously sufficient toxoid to make him immune.

The first important measure in the prevention of tetanus, says Rosenau(10), is the surgical treatment of the wound as soon as possible. The wound should be freely opened and all foreign matter and devitalized tissue completely removed. DaCosta(11) says: "When tetanus exists, always look for a wound; if one is found, open it to the very depths; if there are sloughs, cut them away, paint the wound with tincture of iodine, and secure drainage by leaving the wound open." The homely dictum, "An ounce of clean surgery is worth a pound of antitoxin treatment," may pertinently be repeated(12).

Before the prophylactic dose of antitoxin is given, it is advisable to inject a minute quantity of antitoxin intradermally, to make sure that the patient is not unduly sensitive to horse serum. Fifteen hundred units, given early, is probably ample for the prevention of tetanus. If the injury persists, however, or if there is any suspicion of tetanus, the dose should be repeated within a week, since delayed tetanus may follow the administration of only a single dose of antitoxin. Klopp(13) states that he has not known tetanus to develop after two immunizing doses have been given. When it becomes necessary to remanipulate bone fragments in cases of compound facture, and whenever any secondary operation is to be done several days after a traumatic injury, an additional prophylactic inoculation should always be given beforehand.

Clinicians differ in opinion as to the amount of antitoxin that is needed in the treatment of tetanus. McFetridge(14) says that some patients die too promptly to get enough antitoxin, while others survive long enough to receive too much. A case of average severity, according to Boyce and McFetridge(15) will require about 75,000 units. They suggest that 20,000 units be given intravenously, and 2,000 units into the local wound on the first day; followed by 20,000 units intramuscularly on the second and third days; and 10,000 units intramuscularly a week later. Encirclement of the injured parts, where practicable, by multiple injections of antitoxin, is practiced by some authorities, in the hope of blocking absorption of the toxin that has diffused into the immediate vicinity of the wound. Encouraged by the clinical results, some surgeons regularly inject a part of the dosage into the spinal canal after lumbar puncture. Intraspinal injections may cause a complicating aseptic meningitis. Bates(16) gives a total dosage of 40,000 units subcutaneously or intramuscularly, and 7,500 units intraspinally, all on the first day he sees the patient. Vener(17) has treated 100 consecutive cases with a mortality rate of only 29 per cent. His routine includes 200,000 units of antitoxin for every patient, regardless of age or other factor, 40,000 units of which is given intracisternally. Yodh, of Bombay, India, who also employs the cisternal route for the administration of antitoxin, cites a fatality of 50.6 per cent for 443 cases so treated(18). The introduction of serum into the cisterna magna is too formidable a procedure for any but the most highly skilled hands. Those of us who have reason to doubt the precision of our technique may well omit from our routine an undertaking so hazardous.

Reminded by the postmortem appearance of the local wounds that I have seen in cases of tetanus; and recalling the fact that toxin is continually produced around foreign bodies, and where necrotized tissue persists; I must believe that prompt surgical treatment of the

wound is urgently necessary for the relief of tetanus. Accessible wounds, including apparently healed wounds, should be freely opened, cleansed, and divested of foreign debris. The patient should, of course, be previously fortified against the shock of operation by ample narcosis, and against the liberation of fresh toxin by the administration of antitoxin. Surgical opinion varies widely as to the use of chemical antiseptics in the local wound. Bates (16) applies pure carbolic acid to the wound itself, and injects a 2 per cent solution into the adjoining tissues.

Because of the sustained conscious anxiety of the patient, and because of his extreme responsiveness to external sensory stimuli, a state of semi-narcosis should be maintained throughout the acute stage of the illness. Bates (16) has kept his patients continuously under the influence of Sodium Amytal for several days without bad effects. Avertin has been extolled by certain authors, while some prefer chloral hydrate or other sedative drug. The use of sedatives should precede the administration of antitoxin, the dressing of wounds, and other procedures likely to cause reflex disturbance.

There are other therapeutic requirements of considerable importance. A nurse capable of entering understandingly into the difficulties that beset the patient is truly an asset. Efforts to exclude light, and to eliminate avoidable noise, are worth while. Careful cleansing of the mouth to prevent oral sepsis, and changing the posture of the patient, may lessen the danger of pneumonia. Feeding requires patient attention. At first, it may be desirable to use dextrose solution by proctoclysis, or intravenously, remembering always that massive intravenous injections may precipitate pulmonary edema or cardiac failure.

Despite the remarkable success that has attended the use of tetanus antitoxin, there are numerous limitations that hinder its full acceptability. The protection lasts only a short time, probably about 10 days. The effect diminishes with succeeding doses. Antitoxin may make one sensitive to the future injection of any product that contains horse serum. It cannot be safely administered to those who are already hypersensitive. It is a question, Zinsser(19) says, whether it is possible readily to desensitize man in a short time. Serum sickness, slight or severe, develops in 15 per cent of persons who receive tetanus antitoxin (20). Muscular paralysis, fortunately of rare occurrence, has been reported following the injection of antitoxin. Trivial wounds sometimes lead to the occurrence of tetanus, and the physician is not always culpable if he fails to administer antitetanic serum to every patient with a slight wound.

The pioneer workers, including Von Behring, realized the inadequacy of any form of passive immunization, and the desirability of some method of active immunization. By active immunity is meant the protection that results from introducing, through other channel than the digestive tract, of an antigen. An antigen is any substance that induces the formation of specific antibodies. Tetanus toxin and tetanus toxoid are antigens, and the antibody that results from their injection is tetanus antitoxin. Obviously, active immunization is not a suitable means of treating disease, since the production of antibody in response to the injection of toxin occurs slowly and gradually.

The use of tetanus toxoid for the purpose of actively immunizing well persons whose occupations predispose them to tetanus infection, is growing in favor among medical men in this country. Already, diphtheria toxoid is preeminently the method of choice for the prevention of diphtheria. Zinsser(19) hails the recognition of toxoid as the greatest advance in the investigation of toxins since their discovery. Ramon, in 1924, prepared a tetanus toxoid by adding formaldehyde solution to tetanus toxin. This modified toxin, thus deprived of its poisonousness, retains the capacity to evoke antibody formation when injected parenterally into a susceptible animal or human. It was later learned that toxoid gave less severe reactions when further treated with aluminum potassium sulphate. Alum precipitated toxoid is the preparation most commonly employed at present. Two injections of 1 cc. each are given at intervals of 6 months, followed by a third dose at the time an injury is sustained. If an injury, of such character as to suggest the probability of tetanus infection, occurs before basic immunity is establish-

ed, it may be well to supplement the toxoid immunization by a single dose of 1,500 units of tetanus antitoxin. If one has been actively immunized by means of toxoid, and at some later date receives an injury, it is apparently not necessary to give antitoxin at all. Another dose of toxoid, given at the time, will serve, it is believed, to bring out all the antitoxic defense necessary to protect the individual. According to Jones and Moss(21), a stimulating dose, given at the time of injury, will raise the antitoxin content of the blood to a level equal to that brought about by the administration of 1,500 units of tetanus antitoxin.

Tetanus toxoid seems to possess certain definite advantages: It is harmless, and, since it contains no serum, entails no risk of serum sickness or anaphylaxis. It apparently induces sufficient antibody formation to protect one against tetanus. French military surgeons found, in nearly all soldiers who had received toxoid, sufficient antitoxin to assure immunity for at least a year.(22)

Since 1936, toxoid immunization has been compulsory for all soldiers and animals in the army of France. It is estimated that 1,500,000 persons, soldiers and civilians, have received injections of toxoid, in France. No case of tetanus has been reported in any person who has received toxoid, and the disease has practically disappeared from the horses of the French army. Recommendations have been made to use tetanus toxoid on a voluntary basis in the British army, and its introduction in the U. S. Army is under consideration.

Active immunization by means of tetanus toxoid would seem to be especially desirable for soldiers; for persons liable to suffer occupational wounds, such as agricultural workmen and mechanics; and for children. The majority of cases occur between the ages of 5 and 15 years.

For all children who require active immunization against diphtheria, it would seem advantageous to employ combined tetanus and diphtheria toxoid. The combination apparently increases the efficacy of both toxoids. It was shown by Hektoen that the simultaneous use of multiple antigens does not impair the antibody response to any of the individual antigens. Cooke(23) finds that the use of combined tetanus and diphtheria toxoid, the method now employed at the St. Louis Children's Hospital and the Washington University Children's Clinic, gives added protection without increased effort.

The principal disadvantages of toxoid prophylaxis are: The duration of the immunity is not definitely known, and probably varies. There is no easily performed test whereby the extent of immunity to tetanus may be determined. It is necessary to reinforce the toxoid immunization with a dose of antitoxin if an injury occurs before active immunization has been completed.

The use of tetanus toxoid, for the active immunization of the population generally, must await further trial by large clinics and health departments. They, by inoculating large groups of individuals and analyzing the results, should in time afford us indisputable proof of the usefulness and limitations of tetanus toxoid, singly or combined with diphtheria toxoid.

In conclusion, certain facts should be reemphasized: The prophylactic value of early and thorough attention to the wound; the therapeutic necessity for adequate exposure and cleansing of the wound when symptoms exist; the importance of ample sedation and sufficient antitoxin in the treatment of the disease; and the advantage of tetanus toxoid for the permanent protection of children and others who may be exposed to the hazard of tetanus infection.

If this brief review of the prevention and treatment of tetanus should help any practitioner to meet some problem more confidently, I shall be unceasingly grateful for the good ground upon which the small seed has fallen.

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Cecostomy in the Treatment of Cases of Advanced Appendicitis Report of 28 Cases

WM. H. PRIOLEAU, M. D., F. A. C. S., CHARLESTON, S. C.

The main objectives in the treatment of cases of advanced appendicitis are the prevention and control of generalizing peritonitis and the limitation of infection in the region of the appendix. Whereas the two are of common origin and thus more or less associated, they can to a certain extent be considered separately.

A procedure which has been found effective in these respects is that of cecostomy. Its use is probably more general than would appear from references in the literature. Eason and Watson consider it valuable in preventing distention, and advise its being performed at the primary operation, before the occurrence of atony and dilatation. E. S. Jones calls attention to the fact that in seriously ill postoperative cases of advanced appendicitis recovery commonly follows occurrence of a spontaneous fecal fistula, and deduces that it is reasonable to expect that a previously made direct fecal fistula in the form of a cecostomy would be beneficial. He reports a series of 75 case with 1.4% mortality. Dorrance made the same observation and reports 30 cases with no mortality. He advises cecostomy in all cases of rupture in which drainage is indicated.

In the performance of cecostomy a rubber catheter is passed into the cecum through the stump of the appendix and held in place by a pursestring suture or simple ligature. It is brought out through the wound along with the drains. Should the operative incision be near the midline, the tube is brought out through an additional incision to the right. No attempt is made to bring the cecum up to the abdominal wall, or to pass the tube through omentum.

In about 175 operations for acute appendicitis, cecostomy was preformed in twenty-eight cases, the youngest 2 and the oldest 60 years of age. In each case rubber tissue drains were placed next to the parietal peritoneum, down to the pelvis and along the right lumbar gutter,

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and brought out alongside of the cecostomy tube.

Cecostomy was performed in cases of appendicitis with perforation or gangrene and well developed peritonitis of varying extent, and in a few cases of localized abscess formation. In brief it was performed in all cases in which drainage of the peritoneal cavity was used. In some cases there was profuse discharge of intestinal contents through the tube, in most cases only moderate, and in a few practically none, thereby indicating that cecostomy had a variable effect upon the prevention of distention of the intestines. The tube was passed into the cecum for discharge by rectum or withdrawn on about the tenth day. In one case there was drainage of fecal contents for fourteen days after operation and in another for thirty, but in no case was there a fistula which required operative closure. In some cases there was pelvic induration and in a few evidence of subdiaphragmatic inflammation, but in no case was a secondary operation necessary for drainage of an abscess. In all cases operation was performed as soon as the general condition of the patient made it advisable, usually within a few hours after admission. Fluid was not administered through the cecostomy tube, on the assumption that it would not be conducive to the maximum rest of the intestines.

When the diagnosis of appendicitis was reasonably certain, the McBurney muscle splitting incision was used in preference to a more medial straight incision. It results in less splinting of the abdominal wall with correspondingly less interference with respiration. It is less subject to separation in case of distention, and to subsequent herniation. It permits placing the drains along the lateral wall of the abdomen so as not to involve loops of small intestine. Its closure requires little or no suturing, thus not constricting the drainage tract, and on the same account it is much less subject to wound infection with fascial slough. Except in rare instances it affords adequate exposure. In a few cases in which the diagnosis was in doubt a straight incision was used, and the cecostomy tube and drains brought out through a more lateral incision. In the one case in which the tube and drains were brought out through the straight incision a hernia developed.

In this series of 28 cases there were two deaths, a mortality of 7.1 per cent. In one case—colored male 32 years of age—the onset of the illness was nine days before admission. Persistent vomiting, lack of bowel movements, and the presence of chills and fever were the outstanding symptoms. There was induration in the pelvis, and the ileo-cecal region was involved in an inflammatory mass. Death occurred on the eighth day after operation. A limited post-mortem examination showed no accumulation of pus, but an involvement of the small intestine in an inflammatory mass likely causing obstruction.

In the other case—colored male 26 years of age—the disease had existed 7 days before admission. Persistent vomiting and absence of bowel movements were outstanding symptoms, with a diagnosis of peritonitis of undetermined origin and with an inflammatory mass in the left lower quadrant a low left paramedium incision was made. An extensive peritonitis originating from appendicitis was found. The patient developed broncho-pneumonia and died five days after operation.

COMMENT

Cecostomy prevents increased pressure in the cecum and enables even slight peristalsis to be effective in propelling the intestinal contents through the ileo-cecal valve. It affords an exit for the intestinal contents which obviates the necessity of their traversing the length of the large intestine, which is frequently sluggish in such cases. In these ways it tends to prevent distention, thus favoring a better blood supply to the intestines, enabling them to combat more effectively the peritonitis.

By preventing pressure and affording a ready passage to the outside, cecostomy prevents such occurrences as leakage from the stump, which results in abscess formation, peritonitis, and fecal fistula. The fistulous tract caused by the cecostomy tube is direct and relatively free from infection. It generally collapses upon removal of the tube.

Cecostomy is a simple procedure readily performed. In cases of advanced appendicitis, its potentialities for good are great. Its possibilities for harm are very slight.

SUMMARY

By preventing increased pressure within the cecum in cases of advanced appendicitis, cecostomy tends to limit the infection both local and general.

The report is based upon a series of twenty-eight cases.

DISCUSSION

Dr. Roger G. Doughty, Columbia:

I want to thank Dr. Prioleau for the privilege of opening the discussion on his paper and to congratulate him upon the paper itself as well as upon his results. I am somewhat handicapped in trying to discuss the principal theme of his paper, because I have followed this procedure on'y once. The bad outcome was not the fault of the procedure. I used it in a man who had an obstruction in his ileum, up high, and also an obstruction down lower. I put a tube in and it did not do a bit of good. Of course, it could not. I have never used this procedure since. The best way for me to discuss this paper is to discuss the matter of appendicitis, which is one of the most important matters before the medical profession today.

I have several slides I should should like to show you. The first one gives a report by Burger & Tobert of California. They had 449 cases of acute appendicitis with thirty deaths, giving a mortality of 6.7 per cent. I want you to particularly note the percentage of deaths, which is altogether too high, as shown by Dr. Prioleau's statistics and those for the state of South Carolina as a whole. In this series there were 320 unruptured, and 129 ruptured. Notice the percentage. That is approximately 28 per cent. Drs. Lehman and Parker in Virginia, in 1938 reported 1,029 cases, of which 789 were unruptured and 240 were ruptured. Their mortality over all was 3.27 per cent, part of which occurred in the unruptured group. If we take somewhere between these two percentages, 3.27 per cent and 6.7 per cent, as the average resu't the country over we shall probably arrive nor far from the truth of what that average is.

I have taken my own small group and tabu'ated it in this way. Acute ruptured and operated upon 66, acute unruptured and operated upon, 406. Now, my proportion is all out, compared with the California report. In other words, I have about 14 per cent ruptured in my whole group whereas in 449 cases, a few more cases, they had over 25 per cent ruptured. I do not know whether it is because I am calling things acute appendicitis that are not acute appendicitis. I do not think I am. My criterion of acute appendicitis is an appendix which contains pus, is gangrenous, or is fibrin-covered.

Suppose we cut out 200 of these cases of acute appendicitis; the mortality is still low according to the California report—6.7 mortality, which corresponds closely to Dr. Prioleau's. There was one case of acute appendicitis in a child, with a ruptured appendix, which was not operated upon. For this I must apologize. The child died, and that brings the mortality in the ruptured group to 7.5 per cent. Acute unruptured but drained, 95 cases, with 4 operative deaths; 5 deaths all told.

That is the result without the cecostomy, without the enterostomy, except for one of the four cases that died. I do use the Levine tube & suction quite frequently, not routinely. I do not believe I have had any patients in whom the distention was not relieved by simple suction.

These are supposed to be some co'ored pictures of operative fields, but I do not believe it is worth while to show them. I was simply going to show you the drainage of the peritoneum cavity of which Dr. Prio'eau spoke, using the wall of the abdomen on one side and the omentum on the other to protect the drain from the gut. Pulling the omentum over and allowing your drain to go down to the bottom of the infected area I believe is one of the secrets of the avoidance of distention. Proper and adequate drainage, without having the drain irritate and paralyze the gut, is of supreme importance, to my mind, in the avoidance of complications of distention and ileus.

Dr. G. T. Tyler, Jr., Greenville:

I have not used this method, but I am impressed with the statistics presented from the reported cases. I wonder whether the conclusions that these gentlemen have reached or the deductions from their results are the logical ones. That is why I question the method.

In the first place, it has been said that the cecum is the area where much absorption occurs. The right half of the large bowel, we all know, is the area where the greatest absorption takes place—*of water only*. We know that the intestinal content, as it reaches the left side of the co'on, becomes more or less dry. Occasionally dry masses are found in the rectum difficult to expel. The important things from the intestinal content—the proteins, fats, carbohydrates, and toxins—have all been absorbed from the small bowel.

One of the early signs in peritonitis is distension, which means atony. This is confined to the small bowel. Distension in the large bowel is not present except in the late stages of peritonitis. Opening the cecum allows gas to escape. This will happen if the normal cecum is opened. It is claimed that those patients in whom fecal fistula occurs recover. That is my experience also; but I think the reasoning there is erroneous, because fecal fistu'a is due to the rupture of the sutures in the cecum. That takes place four or five days after operation—*after* the critical period of the first two or three days has passed. I regard fecal fistula as merely an incident in the patient's recovery, not as a causal factor. The

proponents of this method also drain the peritoneal cavity, use the duodenal catheter, and give fluids parenterally. With enterostomy, which I have frequently used with happy results, I feel we have a better chance for relieveing distension than in draining the cecum. A much more logical method would be to push the catheter through the ileo-cecal va've, by which the ileum may be drained, than to drain only the cecum.

The reasons given I think are sufficient for not using this operation. Yet it does not mean that I shall always oppose it. We are all working for the saving of human life; and if these gentlemen by the use of cecostomy get the excellent resu'ts Dr. Prioleau has shown, I should not hesitate to use it also.

Dr. Carl B. Epps, Sumter:

I also am ignorant of this method. I have been hearing of it and have seen a few articles on it from time to time but have not used it myself. I notice the essayist said in his active cases of appendicitis, I think inc'uding advanced and ruptured cases, he operated usually within a very few hours after they entered the hospital. In my opinion that has a great deal to do with his excellent mortality rate. When I was in Chicago (17 years back, I think it was) we were doing operations on dogs and the cadaver and the professor asked us one day when we would operate on appendicitis. Some of the men said they would put it off until a certain time; until the patient got in good shape, and the blood count showed up right, etc. Then he asked me, and said that my practice was to operate when I diagnosed it. He said that was his practice also. There has been a lot of discussion about that, but I think, generally speaking, the time to operate for appendicitis is when you diagnose it.

As to this tube, I wonder of what he'p it is. I wonder if you are not creating a certain amount of danger there. Suppose the cecostomy tube slips out. Then you would have the same condition as you had in the beginning, where you have an opening direct into the abdominal cavity and fecal matter coming out. Another thing I think is of importance. Something was said a few years ago about sticking in a tube and leaving the appendix in there when the appendix is already ruptured and there is an abscess. We do not do that anywhere else; we do not leave a focus of infection. We do not do that with an abcessed tooth, or with an infected bone. So my invariable procedure is to take out the appendix if the condition of the patient permits. I never leave the appendix in there because of the local condition. I might leave it in because of my patient's being practically moribund, when manipulation and the prolonged operation would make it more injurious to the patient to take it out. But I do not leave it in because of the local condition that I find.

I am very much interested in this article and I think it is something that is going to have to be worked out by time.

Dr. T. B. Reeves, Greenville:

I should like to congratulate Dr. Prioleau upon his results. The paper was very interesting to me. I just wish to commend what he has to say regarding the treatment of cases like this. Any case of ruptured appendix is a bad situation; we all know that. During the past seven or eight years we have been operating on all cases of peritonitis. Until seven or eight years ago these desperate cases would come in looking as if they were going to die, and we had no chance to do anything for them; we let them go ahead and die. I am sure that we let a good many die that ought not to have died had we operated on them. For the last seven or eight years we have been operating on all of them with peritonitis. My associate, Dr. Boggs, and I have done around fifty-four or fifty-five of these cases. I am talking about bad ones; we do not do it in the average ruptured appendix, but in desperate cases where we have peritonitis, we put a tube in the cecum in addition to putting a tube in the pelvis, and I am sure we have saved a good many lives, and I feel sure we have not done any harm. As to the catheter slipping out and spilling fecas in the peritoneal cavity, I think this is rather far-fetched, and I do not believe it can happen, for after twenty-four or forty-eight hours, nature has walled off the tube, and any drainage is going to come outside.

The statistics that Dr. Doughty brought out regarding cases of ruptured appendix are unusually good. I do not believe there is another man in the State that I know of, who is getting such good results. He is either not operating on those bad cases or is probably passing up some that ought to be operated on.

I do not see any objection to the operation, and if offers a lot of good advantages.

Dr. Doughty:

For the doctor's information, I should just like to say that every case of appendicitis that I have seen that was ruptured was operated upon except one case, which was included in the statistics.

Dr. Prioleau, closing the discussion:

I appreciate very much the generous discussion. I shall not be able to cover the many points mentioned. In the first place, I wish to make it clear that the cecostomy is simply an additional procedure. The patients are treated just as Dr. Doughty suggested. For peritonitis we use the Levine tube and other appropriate measures. There is no question about the fact that cecostomy, if performed according to our practice, in quite a number of cases is unnecessary, but there is no way by which to tell when it is necessary. As Dr. Reeves pointed out, no harm results from it. The enterostomy has very much the same effect at times; however, it has troubles of its own.

One way of preventing the tube from slipping out

is by the use of a mushroom catheter. Should you use a mushroom catheter, it is better to push it into the cecum and let it pass by rectum. Should there be delayed passage of the tube, the patient and his relatives may become nervous about its whereabouts; however, X-ray examination will show it bobbing up and down in the cecum and it will eventually pass.

Influenzal Meningitis Treated with Sulfapyridine--Report of Two Cases with Recovery

J. I. WARING, M. D., CHARLESTON, S. C.*

Recovery of two patients with influenzal meningitis treated with sulfapyridine has occurred recently at Roper Hospital. Eighteen other patients with the same disease (indicated by smear or culture of spinal fluid) treated in various ways during the past ten years have all died. Specific serum was not used in any case, but sulfapyridine was used in 3 and sulfanilamide in 6 of the fatal cases. Dosage was estimated at 1 grain per pound per day. It is doubtful that the dosage in any of the fatal cases except one was adequate. The cases treated unsuccessfully with sulfapyridine may be summarized briefly as follows:

Age	Sex	Race	Days Ill Before Admission	Condition on Admission	Blood Concentration	Remarks
6 mos.	M.	Negro	6	Poor Bronchopneumonia	0.8 mg. 17th day of illness	Treatment started 10th day of illness
3 yrs.	M.	Negro	14	Poor Convulsions	0.9 mg. 5.5 mg. 14.8 mg. 3rd day of treatment	Improved temporarily, but gradually declined
5 mos.	F.	Negro	21	Pertussis Bronchopneumonia Diarrhea	7.5 mg. 3rd day of treatment 4.09 mg. 7th day of treatment	Meningitic picture improved
				Those treated unsuccessfully with Sulfanilamide were as follows:		
3 yrs.	M.	Wh.	15-20 days	Poor		No response
8 mos.	M.	Negro	?	Poor	2. mg. 8th day of treatment	Spinal block, Lavage of canal. Jaundiced Liver degeneration at autopsy
1 yr.	M.	Negro	1?	Dehydrated Stuporous	—	Died 2nd day
7 mos.	F.	Negro	?	Poor	—	Treated for only 4 days after admission
1 yr.	M.	Negro	14	Poor	—	Died 10th day after admission
5 mos.	M.	Negro	21	Poor	—	Died 10th day after admission

*From the Medical College of the State of South Carolina and the Roper Hospital.

The histories of the two patients who recovered are as follows:

Case 103238—A female Negro child aged 6 years was admitted to Roper Hospital on March 25, 1939. Her father stated that she had had a "cold" for about a week and high fever for 4 days. She had vomited twice. Two days previously the fever seemed less, but on the day before admission it became higher and the patient developed stiffness of the neck and extreme irritability.

She was a poorly nourished child in evident distress. Her pharynx was injected. There was marked stiffness and retraction of the neck. The thighs were flexed, the arms adducted and flexed. Kernig's sign was marked and Brudzinski's sign was present, though slight. Patellar reflexes were not elicited.

The urine was negative, hemoglobin 11gms. (73%), leucocytes 8,200, with 69% neutrophiles and 31% lymphocytes. Three subsequent counts ranged from 4,400 to 6,050 leucocytes. Blood and spinal fluid Kolmer and Kline tests were negative. The colloidal gold curve was negative. The spinal fluid was under pressure, cloudy, with 1120 cells (85% polymorphonuclears) increased globulin, no sugar. B. influenzae was found in the smear and was obtained by culture on two occasions.

The patient was given 7 1/2 grains of sulfapyridine every four hours (about 1 grain per pound per day) for 24 days. On the 6th day of treatment the blood concentration of sulfapyridine was 3.3. mg. Three days after medication was started the spinal fluid count was 114 cells, 2 days later it was 230, 2 days later it was 220, and 6 days after that it was 156. In the last the lymphocytes were 83%. Fever did not exceed 101° F. (rectal) during the 8 days in which it was present.

This child improved steadily during her stay of 41 days in the hospital. At first there was considerable general rigidity, complaint of headache, difficulty in administering sufficient fluid, and occasional vomiting. Before she left the hospital she was alert, walking about, and apparently well except for an obvious deafness which was not explained by examination of the external or middle ear.

Case 103675—A Negro boy, aged 22 months, was admitted to Roper Hospital on April 19, 1939. He had a cold and fever for 5 days. 4 days before admission he complained of pains in his legs and was unable to stand. The past history was negative.

He was a well developed boy weighing 26 1/2 pounds. He showed a slight nasal discharge. He lay with his head turned to the left and his neck stiff. There were a few coarse rales in both lungs. His liver edge was palpable. The patellar reflexes were sluggish, and Kernig's sign was present on both sides; Brudzinski's sign was present, and incoordination of both legs was obvious when the child attempted to stand. Temperature was 102° F. (rectal). The blood showed 8,150 leucocytes, with 72% polymorphonuclears. The urine was negative. Kolmer and Kline tests on blood and spinal fluid were negative. The colloidal gold curve was negative. The spinal fluid on April 19 was turbid, with 18,347 cells (82% polymorphonuclears), increased globulin and no sugar. B. influenzae was obtained by culture, and remained present in the fluid for 26 days. Culture on the 35th day was negative.

This child was put on 4 grains of sulfapyridine every 4 hours for 36 days. On the eleventh day the sulfapyridine concentration of the blood was 2.4 mg. The temperature fell to normal on the 3rd. day after admission. On the eleventh day there was an unexplained rise to 103° F. (rectal) and a gradual return to normal in 24 hours.

Two days after admission the spinal fluid count was 256, with 66% lymphocytes. Next day it was 145. On the eleventh day, when there was an abrupt rise of temperature the cell count rose to 2,368, with 22% lymphocytes. Without change of treatment it fell in 3 days to 54 cells, with 73% lymphocytes. Before discharge on the 39th day after admission the cell count was 5 on one occasion, 7 on another. The child was apparently quite well, able to walk and perform all activities. There was a slight ataxia present.

When seen in July 1939, 90 days after admission, he appeared well except for persistence of a slight ataxia.

SUMMARY

This paper reports two cases of meningitis due to the influenza bacillus which were treated with sulfapyridine and recovered. Other cases which failed to recover under the same treatment are noted.

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NOVEMBER, 1939

THE MEDICAL SOCIETY OF SOUTH CAROLINA (CHARLESTON COUNTY) TO CELEBRATE FOUNDING, DECEMBER 5

Organized medicine throughout the world will be keenly interested in the forthcoming program of the Founding of the Charleston Medical Society one hundred and fifty years ago. At the end of the eighteenth century there were seven state medical societies in the United States as follows: New Jersey (1766), Massachusetts (1781), Delaware (1780), South Carolina (1789), New Hampshire (1791), Connecticut (1792), and Maryland (1799). It appears that it was the intention of the founders of the Medical Society of South Carolina that the Society should be state wide in the scope of its activities and this status probably was maintained until the organization of the American Medical Association in 1847 and the South Carolina State Medical Association in 1848. Subsequently there came about a still more sharply defined plan with the reorganization of the American Medical Association in 1904.

The fact is that only about a half a dozen medical societies in the United States have enjoyed a continuous existence along with the Medical Society of South Carolina.

There will of course be many special features to grace this occasion and such a rare one in world medicine as December the 5th will be in Charleston. Dr. Nathan B. Van Etten, President Elect of the American Medical Association has accepted an invitation to be present. Dr. Francis R. Packard of Philadelphia, eminent medical historian and Editor in Chief of the Annals of Medical History, will also be an honored guest.

It is expected that many other prominent medical men from far and near will lend their presence to this colorful celebration.

MEETING OF THE COLUMBIA MEDICAL SOCIETY

The interesting meetings of the Columbia Medical Society continue to attract visitors from all over the state and the usual cordial hospitality of the members remains in full force. The ambitious program undertaken by the Society is certainly a shining example for the other units of our State Medical Association, and the caliber of the speakers makes attendance worthwhile for all sorts of practitioners.

The polished address delivered by Dr. Van Etten at the October meeting was of interest in many ways. Speaking as President-Elect of the American Medical Association he covered the broad and debatable questions of socialization and federalization of medicine, and

pointed out the dangers of current trends which are not being sufficiently guided by the medical profession. Dr. Van Etten's fervent speech made the occasion all the more interesting. The Columbia Society is to be congratulated on securing this fine type of speaker.

J. I. Waring, M. D.

NEWS ITEMS

The top rank in surgery, Fellowship in the American College of Surgeons, was conferred on 496 surgeons by the College at its annual meeting in Philadelphia, October 16. Among them were the following South Carolina physicians: Dr. Purvis J. Boatwright, Orangeburg; Dr. John G. Cathcart, Gaffney, and Dr. Everett Eldred Herlong, Rock Hill.

Two professional men of Columbia will participate in the program of the Southern Conference on "Tomorrow's Children" to be hold November 9, 10 and 11, at the Atlanta Biltmore Hotel in Atlanta. Dr. Robert E. Seibels, the South Carolina Director of the Conference, is to preside over one of the sessions and summarize the discussion; he is also to read a paper at another session on "The Medical Problem for the Mother." Dr. Austin T. Moore is to read a paper on "The Problem of the Crippled Child in the Southeastern States."

Dr. Herbert H. Harris, well known local physician and surgeon, was elected President of the Anderson County Tuberculosis Sanitorium Association, when trustees of the Sanitorium Association met for the purpose of perfecting the organization October 20. The sanitorium was incoroporated by act of the last South Carolina General Assembly. The trustees elected in addition to officers, an Executive Committee of the governing body. Other physicians elected to office were as follows: Dr. D. C. Stoudemire of Honea Path, Vice President and Dr. Grady Clinkscales of Anderson, Treasurer. A feature of the meeting was a review of the Anderson County Tuberculosis Association's campaign to establish a sanitorium in Anderson County by Dr. Joe H. Carter of the Central Presbyterian Church, who served as Chairman of the campaign funds for the construction of the Tuberculosis Hospital.

The Columbia Medical Society at its October business meeting, October 23, at Hotel Columbia, voted approval of a medical program framed by Dr. Douglas Jennings of Bennettsville, President of the South Carolina Medical Association, and made financial arrangements for its operation. Dr. M. E. Hutchinson reported on a case of pyelitis following delivery.

The Journal has received the following letter: "I am trying to contact a young or middle aged physician to assist me in general office and hospital work, either on salary or percentage basis and the possibility of a permanent partnership to the right man. I believe I have an excellent opening for a man who really wants to work and build up for himself a substantial practice. Could you kindly help me contact such a man through your journal?" This letter is signed by the Medical-Superintendent of a hospital in South Carolina. All replies to this communication may be sent to the Journal and an effort will be made to supply this request.

Dr. Leon H. Banov, Health Officer of Charleston County, South Carolina, was elected President of the International Society of Medical Health Officers at its meeting held in Pittsburg, October 16. The meeting was held in cooperation with the Health Officer's section of the American Public Health Association. The many friends of Dr. Banov congratulate him on receiving this honor.

TUBERCULOSIS ABSTRACTS

A Review for Physicians

ISSUED MONTHLY BY THE NATIONAL TUBERCULOSIS ASSOCIATION

Phrenic nerve interruption in the treatment of tuberculosis has lately lost much of its former popularity. By some it is condemned as being practically useless, if not actually harmful. A more discriminating judgment of this operation is urged by J. W. Cutler who has analyzed 122 consecutive phrenic nerve interruptions in his private patients.

PHRENIC NERVE INTERRUPTION

Claims concerning the value of phrenic nerve interruption are contradictory and confusing. One author reviewed 78 reports involving a total of 7,435 operations performed as an independent procedure and found "cures" reported in 23%. On the other hand, Coryllos, citing his own experiences and those of several workers abroad concluded that the operation is "not efficient, not without danger, and causes a loss of precious time."

This wide divergence of opinion is in good part explained by the type of patient treated—phenomenally good results are in relatively early cases and they would undoubtedly have been obtained from bed-rest alone, while in far advanced cases and in the presence of large, thick-walled cavities success can rarely be expected.

In a consecutive series of 122 tuberculous patients on whom phrenic nerve interruption was performed, it was done on 106 as an independent collapse measure. Many stages and varieties of tuberculosis are represented. Sexes are about equally distributed. The operation was done 60 times on the left side and 62 on the right. In 65 the interruption was temporary, in 57 permanent.

Evaluation of the operation should be based primarily on the changes that follow in the lung under consideration, as determined primarily by comparative X-ray findings, and not necessarily upon the ultimate fate of the patient. The time element, following operation, is of extreme importance. The good results of phrenic nerve interruption become evident within the first six months. Late results are more difficult to define; therefore, a three-to-five-year post operative interval, as a basis for late results, is not unreasonable.

The evaluation of phrenic nerve interruption is discussed under four main headings: (1) the value of the operation as an independent collapse measure, (2) the value as an adjunct to other collapse measures, (3) complications of the operation, and (4) temporary as contrasted with permanent phrenic nerve interruption, and their corresponding indications and contraindications.

In retrospect, the cases are classified as "apparently suitable" and "unsuitable." Unsuitable cases include: (1) apical cavities 3 or more cm. in diameter, for the operation is useless in the attempt to close apical cavities in which the apex has become more or less excavated and adherent to the thoracic wall; (2) dense fibrotic lesions with embedded cavities; (3) pneumonic consolidations; (4) acute infiltrations. In this series there were 30 patients with lesions deemed in retrospect as unsuitable for the operation. The contraindications, in the sense that no benefit will follow, cannot however be considered absolute for occasionally a distinctly good result will follow.

Seventy-one patients fell into the "apparently suitable" category and were evaluated as follows: (a) *Unimproved*, 52%. No material X-ray evidence of improvement in the tuberculous lesions noted within 3 to 6 months after the operation, or an actual increase in the disease. Lack of improvement was observed in all kinds of cases with "apparently suitable" lesions, including both cases of early limited infiltrations without X-ray evidence of cavity and cases of advanced disease.

(b) *Improved*, 34%. Cavity was either closed or reduced in size or there was X-ray evidence of significant clearing with lessening of toxemia and improvement in well-being. However, in only 14 of the 24 cases in this group, did the improvement result in the stabilization of the lesion so that no further therapy was required. In the remaining 10, improvement, marked at first, was in time followed by serious relapse.

(c) *Cleared*, 14%. Clearing of the disease in the lung except for some fibrous strands and a few small, sharply defined, moderately dense, spots. There were cavities of varying sizes in 8 and infiltration without X-ray evidence of cavity in 2. The result followed so shortly after operation and in such manner as to leave little doubt that the paralysis of the diaphragm was the responsible factor. The lungs have remained clear over an average period of more than six years after operation.

No concrete conclusions could be reached as to the type of case among the "apparently suitable" patients in which the operation can be undertaken with reasonable assurance of success. Good results were obtained in advanced disease and in unexpected situations. On the other hand, failures were encountered in minimal cases. In general, good results were observed more frequently when the major lesion was situated below the clavicle, and when the cavity was isolated, thin-walled and surrounded by nearly normal lung tissue.

The relative value of phrenic nerve interruption as an alternative to artificial pneumothorax and thoracoplasty, is considered. In the majority of cases in which phrenic nerve interruption was used as an alternative to pneumothorax the operation was either a useless undertaking or relapse followed an initial improvement. In those cases in which bilateral pneumothorax ultimately became necessary, selective collapse could be established in only 12 out of 28 patients. Time wasted on phrenic nerve interruption was largely responsible for the formation of extensive adhesions. Phrenic nerve surgery should not be looked upon as a substitute for pneumothorax, but must be regarded as a supplementary form of therapy.

More serious is the question of phrenic nerve interruption in preference to thoracoplasty. Of 31 patients in this series suitable for an immediate thoracoplasty, but subjected to phrenic nerve interruption in the hope of avoiding thoracoplasty, 3 died from hemoptysis and 3 from progressive tuberculosis and 7 more became hopeless invalids. In retrospect, these tragedies might have been avoided had thoracoplasty been performed promptly when conditions were most favorable. The important thing is not to resort to a phrenic nerve operation when thoracoplasty is plainly indicated, and not to delay thoracoplasty beyond the time when the phrenic nerve operation has accomplished its maximum good.

Phrenic nerve interruption was carried out also in 16 patients either as an adjunct to other collapse measures or in the treatment of certain complications of pneumothorax therapy including: ineffective pneumothorax, hemoptysis, troublesome cough, discontinued pneumothorax therapy, spontaneous pneumothorax, empyema cavities. The operation accomplished the desired result in about one-third of these patients.

Complications of phrenic nerve interruption must be taken into consideration. In the present series, significant complications attributable to the operation, were encountered in 6 with death in 2. Cardiac failure, which accounted for the 2 deaths, was the outstanding complication. Other important complications were interference with the cough mechanism (2 patients), gastric disturbance (belching and a sense of fullness in the stomach) annoying but not serious (3 patients). The fact remains, however, that the treatment of tuberculosis does not always permit a safe and sure choice of therapy. Phrenic nerve interruption may, in individual cases, prove to be accompanied by the least risk.

Both temporary and permanent phrenic nerve interruption have their place. A temporary phrenic nerve interruption is indicated (1) when the problem is of an emergency nature, as in hemorrhage or active disease requiring immediate collapse therapy when other collapse measures cannot be instituted at the moment, and (2) when other collapse measures such as pneumothorax or thoracoplasty, are in prospect. A permanent phrenic nerve operation is indicated when the operation is carried out as the sole therapeutic measure in the attempt to cure the patient after other collapse procedures have been considered unsuitable, or are plainly contraindicated.

The danger today is not that too many phrenic nerve operations will be performed or that they will be undertaken in an indiscriminate manner, but that the operation will be discarded. This would be unfortunate, for phrenic nerve interruption appears to have value in 15 to 25 per cent of patients. At times it may be the simplest means for saving a patient's life. The operation, however, should be restricted to properly selected cases.

Phrenic Nerve Interruption, J. W. Cutler, M. D., Amer. Review of Tuber., July, 1939.

BOOK REVIEWS

THE VITAMINS

A Symposium Arranged Under the Auspices of the Council on Pharmacy and Chemistry and the Council on Foods of the American Medical Association. Imitation leather. Price, $1.50 postpaid. pp. 637. Chicago: American Medical Association, 1939.

So much information has become available about the vitamins, that it is difficult even for experts to keep up with the literature. The present volume is a welcome compendium of authoritative information about these accessory food factors. There are discussions of the chemistry, physiology, pathology, pharmacology and therapeutics, methods of assay, food sources and human requirements of each of the important vitamins. The volume is composed of thirty-one chapters written by experts, and is published under the auspices of the Council on Pharmacy and Chemistry and the Council on Foods of the American Medical Association.

This book should prove to be an indispensable volume for the library of every physician.

Pathological Conference, Medical College of the State of South Carolina

KENNETH M. LYNCH, M. D., PROFESSOR OF PATHOLOGY

March 31, 1939
Case of Dr. J. S. Rhame
Clinical Record by Dr. H. Mamin

ABSTRACT NO. 391 (54395)

Admitted Feb. 5, 1939; died Feb. 21, 1939.

History: The patient, a white man of 69 years of age, was admitted with the complaints of "cough and cold." He dated the onset of his present illness from two days before admission, at which time a sever pain developed in the right chest. This was accentuated by deep breathing and coughing. Just before admission the patient developed a cough that was productive of a red colored sputum. The past medical and family histories were irrelevant.

Physical: T. 101.4 P. 100 R. 28.

The patient was an aged white man who was coughing considerably at the time of examination. The pupils were small and did not react well. The mouth was edentulous; the pharynx somewhat injected. The anterior cervical lymph nodes were palpable; the neck otherwise negative. Examination of the chest showed limitation of motion on the right side, dullness to percussion at the right base with associated coarse rales and diminution of breath sounds. The heart was not enlarged to percussion, the rate 100, the rhythm regular and no murmurs heard. B. P. 140/90. Examination of the abdomen revealed no palpable organs or masses, tenderness to pressure or other localizing signs. No hernia. Bones, joints, extremities and the neurological examination were not remarkable.

Laboratory: :

Urinalysis (2-6-39) Not remarkable.

Blood	2-5-39	2-12-39	2-14-39
Hb	62%	55%	----
WBC	17,900	12,700	13,000
Polys	80%	75%	78%
Lymphs	16%	20%	20%
Monos	3%	1%	2%

Serology—neg.

Blood Culture—(2-6-39)—neg.

Sputum	2-8-39	2-12-39
Tubercle Bacilli	neg.	neg.
Diplococci	4 plus	4 plus
Pus cells	----	4 plus

Typed 2-6-39—reported it does not type.

Course: Cough, productive of a blood tinged sputum, continued, but the patient did not appear to be in any particular pain or marked discomfort. There was occasional vomiting. Dullness to percussion and diminution of breath sounds persisted at the right base and rales were heard at a higher level, about the tip of the scapula. Fever persisted, fluctuating between 101.6 and normal during the first week of the hospital course. By 2-6-39, the lung findings were essentially unchanged, the temperature had become septic in type, and the expectorated material of a pronounced malodorus character. The patient expired 2-21-39.

Dr. Kelly (presiding:) Mr. Wolfe, will you open the discussion?

Student Wolfe: With a continued cough productive of malodorous pus and blood, temperature and leucocytosis with evidence of dullness at the right base upon percussion, and associated coarse rales, I would think of a lung abscess.

Dr. Kelly: Do you regard this as a typical course for a lung abscess?

Student Wolfe: The history of the onset in this case is rather acute, and pain was present for only 2 weeks. The abscess may well have been of long duration, causing acute symptoms by extension to the pleura or elsewhere. It is not uncommon for a large abscess to rupture into a bronchus and drain off, or if near the periphery to rupture into the pleural cavity and cause empyema.

Dr. Kelly: Mr. Durham, are there any other possibilities?

Student Durham: He may have had an atypical pneumonia without definite signs of consolidation. No organism was typed from the sputum. It is possible to have such symptoms from a necrotizing pneumonia caused by anaerobic organisms. Influenzal pneumonias or pneumonias due to Friedlander's bacillus are also to be considered.

Dr. Kelly: Mr. Greenberg, what have you to say?

Student Greenberg: I would think of pneumonia or a lung abscess. It seems likely that an area of consolidation failed to resolve and underwent necrosis, leading to abscess formation.

Dr. Kelly: Mr. Wolfe, assuming that the patient's reduced hemoglobin had been present for some time before his present illness would you think of any other possibilities?

Student Wolfe: He may have had a long standing focal infection or perhaps suffered from some nutritional deficiency. Malignancy, of course, in any part of the body could give rise to anemia.

Dr. Kelly: Are there any other comments?

Dr. Kredel: In a patient of this age, it is always well to bear in mind the possibility of a lung carcinoma, particularly when signs of a lung abscess are present. Carcinomas of the lung frequently are secondarily infected and break down, forming abscesses which terminate the clinical picture.

At this time Dr. Kalajian showed an X-ray film and pointed out a circumscribed mass in the right

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lower lobe which he thought to be a carcinoma.

Dr. Lynch: This man had a carcinoma of the lung, a large portion of which was destroyed by necrosis and infection. The tumor involves both the lower and a portion of the middle lobe forming a mass as large as a grapefruit. It has apparently arisen from a bronchus close to the hilus and extended into the lower lobe. The central portion of the tumor forms a cavity filled with bloodstained necrotic material which was discharged through a neighboring eroded bronchus. The regional lymph nodes about the hilus of the lung were involved in the tumor, but there were no other metastases. Other findings of interest were a marked generalized vascular sclerosis with a small dissecting aneurysm of the abdominal aorta near its bifurcation. The coronary vessels also showed rather advanced thickening and resulting scar formation of the myocardium. There were also multiple adenomatous polypi throughout the colon, but no evidence of any malignant change was noted on microscopic sections of these polypi.

WOMAN'S AUXILIARY

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LAURENS COUNTY MEDICAL AUXILIARY

The Laurens County Medical Auxiliary held its September meeting at the home of Mrs. Martin Teague on Laurens Avenue, Laurens, S. C., and had on the program for the afternoon three guest speakers, two of whom are State Officers.

Mrs. W. B. Furman of Easley, President of the Woman's Auxiliary to the South Carolina Medical Association, outlined the important phases of work expected from each unit. Mrs. R. P. Jeanes, also of Easley, State Corresponding Secretary, discussed the various trophies and awards given at the annual state convention for work accomplished by each unit. Mrs. J. W. Kitchen, of Liberty, President of the Pickens County Auxiliary, told of the many phases of work peculiar to her small but industrious unit.

Mrs. J. G. Hart, of Laurens, the local President, presided and Mrs. D. O. Rhame, of Clinton, Secretary and Treasurer, read the minutes of the May meeting, the last before the summer recess. An informal report was made by Mrs. R. H. Ariail, local scrapbook chairman.

The names of three new members were added to the roll, Mrs. James F. Dusenberry and Mrs. P. E. Cannon of Laurens, and Mrs. W. A. Moorehead of Goldville. Several other new members are to be added at the next meeting it was announced.

Following the program and the business session, tea was served by the hostess, assisted by Mrs. J. H. Teague and Mrs. R. H. Perkins.

ABBEVILLE COUNTY MEDICAL AUXILIARY

The Abbeville County Auxiliary to the South Carolina Medical Association held its first meeting of the fall on October 9 at the home of Mrs. J. V. Tate at Calhoun Falls. There were six of our eight members present. Plans

were discussed for the year's work. Among them were plans to assist the County Health Unit in any way we could. Efforts will be made to secure new members during the year. At the conclusion of the business session Mrs. Tate served a delightful salad course with tea.

MRS. J. R. POWER, Secretary.

SPARTANBURG COUNTY MEDICAL AUXILIARY

Mrs. Robert D. Hill and Mrs. W. G. Morehouse were joint hostesses to the members of the local auxiliary to the Spartanburg County Medical Association during September which was their first fall meeting of the year at the home of Mrs. Hill at Pacolet. Mrs. Hill, President, was in the chair and presided over the business session at which plans for the ensuing year were discussed.

Mrs. Jesse O. Willson, Chairman of the Program Committee, gave an interesting outline, with tentative plans for the programs for the year. Mrs. Willson then presented Mrs. Harold D. Cochran of Clemson College, who sang "The Boat Song" and "Roses of Picardy." Mrs. Cochran was accompanied by Mrs. Laye Johnson of Pacolet at the piano. Miss Belle Fuller, Public Health Nurse at Pacolet Mills, gave an inspiring talk on "The Program of Health Work at Pacolet." The speaker discussed here work in the pioneer stages and compared it with that of her work today.

It was announced that the American Medical Association and the N. B. C. would return to the air October 19 at 4:30 o'clock each Thursday over the Blue Network of the N. B. C. with an entirely new program.

Following the program, a social hour was enjoyed with the hostesses.

MRS. FANNY HORTON LONG

The Pickens County Medical Auxiliary at their last meeting dedicated a page in their minute book in honor of a faithful member,

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*"Treatment of Acute Anterior Urethritis with Silver Picrate," Knight and Shelanski, AMERICAN JOURNAL OF SYPHILIS, GONORRHEA AND VENEREAL DISEASES, Vol. 23, No. 2, pages 201-206, March, 1939.

JOHN WYETH AND BROTHER, INC. • PHILADELPHIA, PA.

Mrs. Fanny Horton Long of Liberty, who passed away June 4th, 1939.

Mrs. Long was a member of the Medical Auxiliary for a number of years, and her faithful and untiring efforts shall be missed.

MRS. R. P. JEANES HOSTESS TO PICKENS MEDICAL AUXILIARY

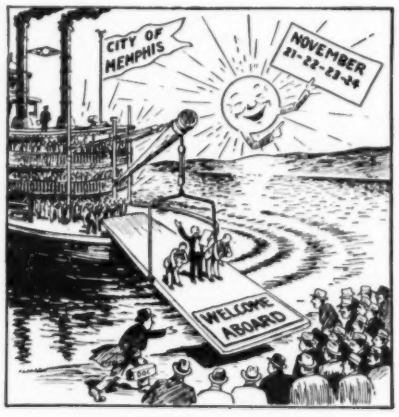
The Pickens County Medical Auxiliary held their August meeting with Mrs. R. P. Jeanes as hostess. Mrs. J. W. Kitchen, President, called the meeting to order, and the devotional was led by Mrs. L. R. Poole, followed by the Lords Prayer being repeated in unison. After the minutes and roll call and reports from committees were heard, new work for the coming year was discussed.

Mrs. Kitchen read a paper from the State President giving a general outline of work to be followed, and announced that a trophy would be given the Auxiliary having the best Health Project or projects during the year. She also read a paper from the State Program Chairman giving suggestions to be used in the State work.

The Auxiliary dedicated a page in their minute book to the memory of a faithful member, Mrs. Fanny Horton Long of Liberty who passed away June 4, 1939.

Reciting the Club Woman's Creed, the meeting adjourned. Mrs. Jeanes served her guests a frozen salad with iced tea. Visitors at this time were Mrs. W. W. Robinson and Mrs. Carl Pepper.

The South Carolina Society of Ophthalmology and Otolaryngology will hold its annual meeting Tuesday, November 7, at the Columbia Hotel, at 3:00 P. M., according to notices sent out by Dr. J. W. Jervey Jr., of Greenville, Secretary-Treasurer, of the Society. Dr. Emory Hill, Professor of Ophthalmology at the Medical College of Virginia will address the meeting on "Some Problems of Cataract Surgery." Dr. Hill is an eminent ophthalmologist and a thoroughly delightful personality. It is hoped that a good many physicians in South Carolina wil find time to attend this meeting. Those making plans to be present are requested to notify Dr. J. W. Jervey, Jr., 101 Church Street, Greenville, S. C., to that effect.



WELCOME to MEMPHIS to the outstanding medical meeting of the year—the annual meeting of the **Southern Medical Association, November 21-24.** In the nine general clinical sessions, the nineteen sections, the three independent medical societies meeting conjointly and the scientific and technical exhibits, every phase of medicine and surgery will be covered **—the last word in modern, practical, scientific medicine and surgery.** Addresses and papers will be given by distinguished physicians not only from the South but from all over the United States.

REGARDLESS of what any physician may be interested in, regardless of how general or how limited his interest, there will be at Memphis a program to challenge that interest and make it worth-while for him to attend.

ALL MEMBERS of State and County medical societies in the South are cordially invited to attend. And all members of state and county medical societies in the South **should be and can be** members of the Southern Medical Association. The annual dues of $4.00 include the Southern Medical Journal—**the equal of any, better than many.**

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BIRMINGHAM, ALABAMA

SOCIETY REPORTS

The Oconee County Medical Society met at the Oconee County Hospital, Seneca, Friday evening, October 13, to participate in the opening of the new clinical laboratory and the new hospital library. Dr. F. T. Simpson, Vice President of the Society, presided, in the absence of Dr. T. G. Hall, President, who has been ill for several months, but is now much better.

The first speaker on the program was Dr. W. L. Pressly, President Elect of the South Carolina Medical Association, Due West, who gave an excellent resume of the present status of organized medicine and its problems and of the South Carolina Medical Association and its objectives. This address was followed by a discussion of Scarlet Fever in its public health aspects by Dr. G. E. McDaniel, Epidemiologist of the State Board of Health, Columbia. The County Health Officer, Dr. W. E. Baldwin, and several members of the Society, discussed this disease, a number of cases having developed in the county in recent weeks, all of a mild type. Dr. E. R. Pund, Professor of Pathology, Medical Department University of Georgia, Augusta, Georgia, delivered an address on The Functions and Possibilities of the Small Hospital Laboratory.

The new laboratory was then visited by the Society and guests and Miss Betty Watson, who was recently elected, head of the laboratory introduced. Miss Watson received her A. B. degree from LaGrange College, LaGrange, Georgia, did graduate work at William and Mary College and took technician's training at the University of Georgia Medical School in Augusta.

Additional guests present were Dr. Lee Milford, Surgeon of Clemson College and Dr. Homer M. Daniel of the Anderson County Hospital staff. At the conclusion of the exercises, Miss Robbins, Superintendent of the Hospital, and her staff of nurses served light refreshments. E. A. HINES, Secretary

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NEWS ITEMS

All members of the South Carolina Medical Association are cordially invited to attend the annual meeting of the Radiological Society of North America which will be held in Atlanta, Georgia, December 11-15, 1939. This annual meeting is coming to Atlanta for the first time and represents in its membership the leading radiologists of the United States and Canada. The program is unusually broad and instructive being divided into three parts as follows: (1) What is known as the Refresher Course, which consists of courses on various subjects given by the leading men in this particular branch. This Refresher series begins Sunday afternoon, December 11th, for three hours, Sunday night for two hours, and meets daily from 8 to 10 A. M. Several of the courses, particularly those subjects of wider scope, such as Radiology of the Gastro-intestinal Tract and Radiology of the Chest, are so arranged that related subjects will follow consecutively, making it possible to enroll in a sequential series. (2) The morning session of this Assembly is a mixed meeting on topics of Radiology, including Roentgenology and Radium. (3) The afternoon meeting is divided into two parts, the first Diagnostic and Roentgenology and the second Therapeutic Roentgenology and Radium Therapy. There is no expense to members of our State Medical Association for registration, or to attend either the Refresher series of courses, or the Symposium. Membership in the Refresher Courses is limited, 1st to the members of the Radiological Society. After that, any physicians applying are listed in order of application.

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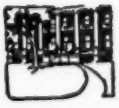

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